

November 2, 2001

Mr. David Ellenwood
Akron Foundry
502 E. Main Street
Akron, IN 46910

Re: **049-14651**
Minor Source Modification to:
Part 70 Operating Permit No.: **T 049-5899-00001**

Dear Mr. Ellenwood:

Akron Foundry was issued Part 70 operating permit **T 049-5889-00001** on December 28, 1999 for grey iron foundry. An application to modify the source was received on July 27, 2001. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

One (1) natural gas fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour total.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction and operation when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Frank P. Castelli, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

FPC/MES

cc: File - Fulton County
Fulton County Health Department
Northern Regional Office
Air Compliance Section Inspector - Richard Sekula
Compliance Branch - Karen Nowak
Administrative and Development - Cynthia Bymaster
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Akron Foundry, Inc.
502 E. Main Street
Akron, Indiana 46910**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 049-5899-00001	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: December 28, 1999 Expiration Date: December 28, 2004

First Significant Source Modification, No.: 049-11484-00001, issued on January 14, 2000.

First Minor Source Modification No.: 049-14651-00001	Pages Affected: 6, 7, and 40. Page Added: 40a
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: November 2, 2001

TABLE OF CONTENTS

A	SOURCE SUMMARY	6
A.1	General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]	
A.3	Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.4	Part 70 Permit Applicability [326 IAC 2-7-2]	
B	GENERAL CONDITIONS	8
B.1	Permit No Defense [326 IAC 2-1-10] [IC 13]	
B.2	Definitions [326 IAC 2-7-1]	
B.3	Permit Term [326 IAC 2-7-5(2)]	
B.4	Enforceability [326 IAC 2-7-7(a)]	
B.5	Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]	
B.6	Severability [326 IAC 2-7-5(5)]	
B.7	Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.8	Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]	
B.9	Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]	
B.10	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]	
B.11	Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.12	Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]	
B.13	Emergency Provisions [326 IAC 2-7-16]	
B.14	Permit Shield [326 IAC 2-7-15]	
B.15	Multiple Exceedances [326 IAC 2-7-5(1)(E)]	
B.16	Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]	
B.17	Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]	
B.18	Permit Renewal [326 IAC 2-7-4]	
B.19	Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]	
B.20	Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]	
B.21	Operational Flexibility [326 IAC 2-7-20]	
B.22	Construction Permit Requirement [326 IAC 2]	
B.23	Inspection and Entry [326 IAC 2-7-6(2)]	
B.24	Transfer of Ownership or Operation [326 IAC 2-1-6] [326 IAC 2-7-11]	
B.25	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]	
C	SOURCE OPERATION CONDITIONS	20
	Emission Limitations and Standards [326 IAC 2-7-5(1)]	
C.1	Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]	
C.2	Opacity [326 IAC 5-1]	
C.3	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4	Incineration [326 IAC 4-2][326 IAC 9-1-2]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	

- C.6 Operation of Equipment [326 IAC 2-7-6(6)]
- C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]
- C.8 Production Limitation
- C.9 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Testing Requirements [326 IAC 2-7-6(1)]

- C.10 Performance Testing [326 IAC 3-6]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

- C.11 Compliance Schedule [326 IAC 2-7-6(3)]
- C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
- C.13 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]
- C.14 Monitoring Methods [326 IAC 3]
- C.15 Pressure Gauge Specifications

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

- C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]
- C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5]
[326 IAC 2-7-6] [326 IAC 1-6]
- C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)]
[326 IAC 2-6]
- C.21 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]
- C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
- C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

Stratospheric Ozone Protection

- C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS - Two (2) Electric Induction Furnaces 30

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 Particulate Matter (PM) [326 IAC 6-3-2] [326 IAC 2-2]
- D.1.2 Production Limit

Compliance Determination Requirements

- D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.1.4 Record Keeping Requirements
- D.1.5 Reporting Requirements

D.2 FACILITY OPERATION CONDITIONS - Pouring and Cooling Operation 32

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]
- D.2.2 Particulate Matter [326 IAC 2-2]

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

D.3 FACILITY OPERATION CONDITIONS - Shakeout Operation 33

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]

D.3.2 Particulate Matter [326 IAC 2-2]

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

D.4 FACILITY OPERATION CONDITIONS - Grinding and Finishing Operation 34

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-3-2]

D.4.2 Particulate Matter [326 IAC 2-2]

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.4.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.5 Visible Emissions Notations

D.4.6 Parametric Monitoring

D.4.7 Baghouse Inspections

D.4.8 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.9 Record Keeping Requirements

D.5 FACILITY OPERATION CONDITIONS - Sand Handling Operations 37

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter (PM) [326 IAC 6-3-2]

D.5.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.5.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.4 Visible Emissions Notations

D.5.5 Parametric Monitoring

D.5.6 Baghouse Inspections

D.5.7 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.8 Record Keeping Requirements

D.6	FACILITY OPERATION CONDITIONS - Core Making Operation	40
	Emission Limitations and Standards [326 IAC 2-7-5(1)]	
D.6.1	Particulate Matter (PM) [326 IAC 6-3-2]	
D.6.2	Particulate Matter [326 IAC 2-2]	
	Compliance Determination Requirements	
D.6.3	Volatile Organic Compounds [326 IAC 8-1-6]	
D.7	FACILITY OPERATION CONDITIONS - Scrap and Charge Handling Operation	41
	Emission Limitations and Standards [326 IAC 2-7-5(1)]	
D.7.1	Particulate Matter (PM) [326 IAC 6-3-2]	
D.7.2	Particulate Matter [326 IAC 2-2]	
	Compliance Determination Requirements	
D.7.3	Testing Requirements [326 IAC 2-7-6(1),(6)]	
Certification Form		42
Quarterly Compliance Monitoring Form		43
Emergency/Deviation Occurrence Report		44
Quarterly Report Form		46

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary grey iron foundry.

Responsible Official:	David Ellenwood
Source Address:	502 E. Main Street, Akron, Indiana 46910
Mailing Address:	502 E. Main Street, Akron, Indiana 46910
SIC Code:	3370
County Location:	Fulton
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) Two (2) electric induction furnaces, installed in 1997, capacity: 3.0 tons of metal per hour, each.
- (b) One (1) pouring and cooling operation, capacity: 6.00 tons of metal per hour and 10.66 tons of sand molds and cores per hour.
- (c) One (1) shakeout operation, capacity: 6.00 tons of metal per hour and 10.66 tons of sand molds and cores per hour.
- (d) One (1) grinding and finishing operation consisting of six (6) stationary grinders, three (3) installed in 1965, one (1) installed in 1970 and two (2) installed in 1983, capacity: 6.00 tons of metal total, one (1) shot-blaster, installed in 1985, capacity: 6.00 tons of metal per hour, one (1) rotary tumbler, installed in 1967, capacity: 6.00 tons of metal per hour and one (1) shared baghouse for particulate matter control, exhausting through stack S-2.
- (e) One (1) sand handling operation consisting of one (1) miller installed in 1995, capacity: 21 tons of sand per hour, one (1) screener, installed in 1995, capacity: 21 tons of sand per hour, one (1) bucket elevator, installed in 1995, capacity: 21 tons of sand per hour, one (1) bucket loader, installed prior to 1995, capacity: 21 tons of sand per hour, wet sand conveyors, installed prior to 1995, capacity: 21 tons of sand per hour, one (1) sand and clay addition system, installed in 1995, capacity: 0.12 tons of sand and clay per hour and one (1) shared baghouse for particulate matter control, exhausting through stack S-2.
- (f) One (1) core making operation consisting of three (3) manual shell machines, capacity: 100 pounds of sand per hour each and 6.00 tons per hour of metal.

- (g) Manual molding machines, consisting of two (2) rotolifts, installed in 1984 and 1990, and eleven (11) portable floor squeezers, installed between 1950 and 1975, capacity: 10.66 tons of sand per hour, each.
- (h) One (1) scrap and charge handling operation, capacity: 6.00 tons of iron per hour.
- (i) One (1) natural gas fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour, total.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1 (21) that have applicable requirements.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (f) One (1) core making operation consisting of three (3) manual shell machines, capacity: 100 pounds of sand per hour each and 6.0 tons per hour of metal.
- (g) Manual molding machines, consisting of two (2) rotolifts, installed in 1984 and 1990, and eleven (11) portable floor squeezers, installed between 1950 and 1975, capacity: 10.66 tons of sand per hour, each.
- (i) One (1) natural gas fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour, total.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) The particulate matter (PM) emissions from the core making operation shall not exceed 13.7 pounds per hour for a process weight rate of 6.05 tons per hour.
- (b) The particulate matter (PM) emissions from the mold making operation shall not exceed 20.0 pounds per hour for a process weight rate of 10.66 tons per hour.
- (c) The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$
where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour
- (d) The particulate matter (PM) emissions from the natural gas fired oil-sand core oven shall not exceed 0.551 pounds per hour for a process weight rate of 96 pounds per hour.

D.6.2 Particulate Matter [326 IAC 2-2]

The particulate matter and PM_{10} emissions from the core making operation shall not exceed 1.10 pounds per ton of metal produced, equivalent to 5.50 tons of PM and PM_{10} per year at the production limit of 10,000 tons of metal melted per twelve (12) consecutive month period to avoid the applicability of 326 IAC 2-2.

D.6.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification which may increase the potential to emit VOC to twenty five (25) tons per year from the natural gas fired oil-sand core oven shall require approval from IDEM, OAQ prior to making the change.

Compliance Determination Requirements

There are no compliance determination requirements for these emission units.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

There are no record keeping requirements for these emission units.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Akron Foundry
502 E. Main Street
Akron, Indiana 46910

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of
_____.
(Company Name)
4. I hereby certify that Akron Foundry, 502 E. Main Street, Akron, Indiana 46910, completed construction of an oil-sand core oven on _____ in conformity with the requirements and intent of the Part 70 Operating Permit modification application received by the Office of Air Quality on July 27, 2001 and as permitted pursuant to **Permit No. 049-14651, Plant ID No. 049-00001** issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for Part 70 Minor Source and Permit Modifications

Source Background and Description

Source Name:	Akron Foundry
Source Location:	502 E. Main Street, Akron, Indiana 46910
County:	Fulton
SIC Code:	3321
Operation Permit No.:	T 049-5899-00001
Operation Permit Issuance Date:	December 28, 1999
Minor Source Modification No.:	049-14651
Minor Permit Modification No.:	049-14865
Permit Reviewer:	Frank P. Castelli

The Office of Air Quality (OAQ) has reviewed a modification application from Akron Foundry relating to the construction and operation of the following emission unit and pollution control device:

One (1) natural gas-fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour, total.

History

On July 27, 2001, Akron Foundry submitted an application to the OAQ requesting to add an oil-sand core oven to their existing plant. Akron Foundry was issued a Part 70 Operating Permit on December 28, 1999 and a significant source modification 049-11484 was issued on January 14, 2000.

This source is an existing minor source pursuant to 326 IAC 2-2 (PSD) as one of the twenty eight (28) listed major PSD source categories, PM and PM₁₀ emissions have been limited in previous approvals to less than one hundred (100) tons per year. Therefore, there is no need to address the issue of possible increased utilization of the source in terms of future potential to past actual emissions. Furthermore, the source has stated that the proposed core oven will not increase production in any other areas of the foundry and the potential emissions from the source will continue to be limited by the existing 10,000 ton per year melt limit in the operating permits. This source will still be considered a minor source pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)). The addition of the oil-sand core oven will add to the potential VOC emissions of the existing core making operation, but the total potential to emit VOC from core making operations will still be less than twenty-five (25) tons per year.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

There are no stacks associated with the proposed core oven.

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 27, 2001. Additional information was received on August 27, 2001.

Emission Calculations

See pages 1 and 2 of Appendix A of this document for detailed emissions calculations.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.758
PM ₁₀	0.760
SO ₂	0.0003
VOC	15.1
CO	0.035
NO _x	0.042

HAPs	Potential To Emit (tons/year)
Phenol	0.256
Natural Gas Combustion	0.001
TOTAL	0.257

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4) that requires a minor source modification when the potential to emit VOC is greater five (5) tons per year and less than twenty-

five (25) tons per year.

The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Minor Permit Modification (MPM 049-14865) in accordance with 326 IAC 2-7-12(b)(1). The Minor Permit Modification will give the source approval to operate the proposed emission unit.

County Attainment Status

The source is located in Fulton County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Fulton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Fulton County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions

Since this type of operation is one of the 28 listed source categories under 326 IAC 2-2, even though there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	90.2
PM ₁₀	82.9
SO ₂	1.00
VOC	30.6
CO	1.00
NO _x	2.00

This existing source is a not major stationary source because an attainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more, and it is one of the 28 listed source categories.

- (b) These emissions are based upon the Technical Support Document for SSM 049-11484, issued on January 14, 2000.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Proposed Modification	0.758	0.760	0.0003	15.1	0.035	0.042	0.257
Existing Source	90.2	82.9	1.00	30.6	1.00	2.00	8.18
PSD Threshold Level	100	100	100	100	100	100	-

- (a) This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.
- (b) This source will still be considered a minor source pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), since the potential-to emit after controls and the 10,000 ton per year melt limit will be less than one hundred (100) tons per year for all criteria pollutants.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) This modification does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than one hundred (100) tons per year. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable.

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New source toxics control)

This modification is not subject to this rule since the single HAP and combination of HAPs are less than ten (10) tons per year.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

The natural gas fired oil-sand core oven has a process weight rate of 96 pounds per hour and therefore the allowable PM emission rate is 0.551 pounds per hour. Since the potential PM emission rate is 0.173 pounds per hour, the natural gas fired oil-sand core oven complies with this rule.

326 IAC 8-1-6 (New facilities: general reduction requirements)

This rule may apply to new facilities as of January 1, 1980. Since the potential to emit VOC from the proposed core oven is less than twenty-five (25) tons per year, 326 IAC 8-1-6 does not apply to this minor source modification.

Testing Requirements

Testing VOC emissions from the natural gas fired oil-sand core oven is not necessary because the potential VOC emissions were calculated by assuming 100% flashoff of the VOC from each component (catalyst, binders and core oil). In addition, testing of PM is not required since the standard AP-42 emission factor was used for the sand handling aspect of the core making and there is no control device.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a

source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this source modification.

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) Two (2) electric induction furnaces, installed in 1997, capacity: 3.0 tons of metal per hour, each.
- (b) One (1) pouring and cooling operation, capacity: 6.00 tons of metal per hour and 10.66 tons of sand molds and cores per hour.
- (c) One (1) shakeout operation, capacity: 6.00 tons of metal per hour and 10.66 tons of sand molds and cores per hour.
- (d) One (1) grinding and finishing operation consisting of six (6) stationary grinders, three (3) installed in 1965, one (1) installed in 1970 and two (2) installed in 1983, capacity: 6.00 tons of metal total, one (1) shot-blaster, installed in 1985, capacity: 6.00 tons of metal per hour, one (1) rotary tumbler, installed in 1967, capacity: 6.00 tons of metal per hour and one (1) shared baghouse for particulate matter control, exhausting through stack S-2.
- (e) One (1) sand handling operation consisting of one (1) miller installed in 1995, capacity: 21 tons of sand per hour, one (1) screener, installed in 1995, capacity: 21 tons of sand per hour, one (1) bucket elevator, installed in 1995, capacity: 21 tons of sand per hour, one (1) bucket loader, installed prior to 1995, capacity: 21 tons of sand per hour, wet sand conveyors, installed prior to 1995, capacity: 21 tons of sand per hour, one (1) sand and clay addition system, installed in 1995, capacity: 0.12 tons of sand and clay per hour and one (1) shared baghouse for particulate matter control, exhausting through stack S-2.
- (f) One (1) core making operation consisting of three (3) manual shell machines, capacity: 100 pounds of sand per hour each and 6.00 tons per hour of metal.
- (g) Manual molding machines, consisting of two (2) rotolifts, installed in 1984 and 1990, and eleven (11) portable floor squeezers, installed between 1950 and 1975, capacity: 10.66 tons of sand per hour, each.
- (h) One (1) scrap and charge handling operation, capacity: 6.00 tons of iron per hour.
- (i) **One (1) natural gas fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour, total.**

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (f) One (1) core making operation consisting of three (3) manual shell machines, capacity: 100 pounds of sand per hour each and 6.0 tons per hour of metal.
- (g) Manual molding machines, consisting of two (2) rotolifts, installed in 1984 and 1990, and eleven (11) portable floor squeezers, installed between 1950 and 1975, capacity: 10.66 tons of sand per hour, each.
- (i) **One (1) natural gas fired oil-sand core oven, rated at 0.100 million British thermal units per hour, capacity: 96 pounds of sand, core oil, water and binders per hour, total.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) The particulate matter (PM) emissions from the core making operation shall not exceed 13.7 pounds per hour for a process weight rate of 6.05 tons per hour.
- (b) The particulate matter (PM) emissions from the mold making operation shall not exceed 20.0 pounds per hour for a process weight rate of 10.66 tons per hour.
- (c) The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$
where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour
- (d) **The particulate matter (PM) emissions from the natural gas fired oil-sand core oven shall not exceed 0.551 pounds per hour for a process weight rate of 96 pounds per hour.**

D.6.3 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification which may increase the potential to emit VOC to twenty five (25) tons per year from the natural gas fired oil-sand core oven shall require approval from IDEM, OAQ prior to making the change.

Compliance Determination Requirements

There are no compliance determination requirements for these emission units.

~~D.6.3 Testing Requirements [326 IAC 2-7-6(1),(6)]~~

~~The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.6.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

There are no record keeping requirements for these emission units.

Note: Entire Permit

On January 1, 2001, the name of the Office of Air Management (OAM) was changed to the Office of Air Quality (OAQ). All references to the Office of Air Management or OAM on the cover page of the permit have been changed to Office of Air Quality or OAQ. All references to Office of Air Management or OAM in the Part 70 should be read as Office of Air Quality or OAQ.

In addition, all references to the Compliance Data Section have been changed to Compliance Branch.

Conclusion

The construction and operation of this proposed modification shall be subject to the conditions of the attached Part 70 Minor Source Modification No. 049-14651-00001 and Part 70 Minor Permit Modification No. 049-14865-00001.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

Page 1 of 2 TSD App A

**Company Name: Akron Foundry
Address City IN Zip: 502 East Main Street, Akron, IN 46910
Source Modification: 049-14651
Pit ID: 049-00001
Reviewer: Frank Castelli
Date: July 27, 2001**

Oil-Sand Core Oven

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.100

0.834

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.001	0.003	0.0003	0.042	0.002	0.035

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,050 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	8.760E-07	5.006E-07	3.129E-05	7.509E-04	1.418E-06

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	2.086E-07	4.589E-07	5.840E-07	1.585E-07	8.760E-07	0.001

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Emission Unit -Sand Core Oven							
Pollutant	Maximum Rate (tons/hr)	Emission Factor (lbs/tons)	Uncontrolled Emission Rate (lbs/hr)	Uncontrolled Emission Rate (tons/yr)	Control Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)
PM	0.048	3.6	0.173	0.757	0.0%	0.173	0.757
PM-10	0.048	3.6	0.173	0.757	0.0%	0.173	0.757
VOC							
Oil-Sand Core Recipe							
Core Oil	0.00172368	2000	3.447	15.099	0.0%	3.447	15.1
or Air Set Recipe							
Catalyst	0.00009744	2000	0.195	0.854	0.0%	0.195	0.854
Binder Part 1	0.0005856	2000	1.171	5.130	0.0%	1.171	5.130
Binder Part 2	0.00048768	2000	0.975	4.272	0.0%	0.975	4.272
						Subtotal	10.3
						Worst Case VOC	15.1
HAPs							
Binder Part 1 (5% Phenol)							
Phenol	0.00002928	2000	0.059	0.256	0.0%	0.059	0.256